

REMARKS

This is a response to the initial Office Action for the above referenced Continued Prosecution Application. This Office Action is believed to have been mailed August 1, 2001. This case was transferred to Applicant's new representative, the undersigned, recently and the front page of the Office Action (which shows the date mailed) was omitted. However, a letter that accompanied the Office Action indicated that the response is due on or before November 1, 2001.

In the Office Action, the Examiner required that a new abstract with lines double spaced be provided. A new abstract is provided herewith.

Further, the Examiner rejected Claim 20 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 20 has been cancelled from the application.

Further, the Examiner rejected Claims 1-12 and 17-20 under 35 USC § 103(a) as being unpatentable over Niedermayer, et al. in view of Ramacier, Jr., et al., Preszler, Pawlowski, Jr. and Frerichs. Claims 1-12 and 17-20 have been cancelled from the patent application.

Further the Examiner rejected Claims 13-16 under 35 USC § 103(a) as being unpatentable over Niedermayer, et al. in view of Ramacier, Jr., et al, Preszler, Pawlowski, Jr. and Frerichs, and further in view of Ito. Claims 13-16 have been cancelled from the application.

New Claims 21-29 have been added to the patent application by this Amendment. In his rejection of Claims 1-12 and 17-20 under 35 USC Section 103(a) as being unpatentable over Niedermayer, et al in view of Ramacier, Jr., et al, Preszler, Pawlowski, Jr. and Frerichs, and in his rejection of Claims 13-16 under 35 USC Section 102(a) as being unpatentable over Niedermayer, et al in view of Ramacier, Jr., et al, Preszler, Pawlowski, Jr. and Frerichs and further in view of Ito, the Examiner has apparently taken the position that the combination of a duplex valve (as disclosed by Ramacier, Jr., et al.) with in ink jet supply apparatus (as disclosed by Niedermayer, et al.) is obvious.

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Applicant believes that the Examiner's hypothetical combination of the Niedermayer et al. and Ramacier, Jr., et al. patent references represents a hindsight reconstruction of the subject invention and as such constitutes an improper combination of prior art references. In re Shaffer, 108 U.S.P.Q. 326 (C.C.P.A. 1956); and Bolyard v. Watson, Comr. Pats., 124 U.S.P.Q. 165 (D.D.C. 1959).

Furthermore, it is respectfully submitted that neither the Niedermayer et al. and Ramacier, Jr., et al. patent references provided any motivation or suggestion for the hypothetical combination thereof as required for a proper combination of prior art references under 35 U.S.C. §103. In re Shaffer, 108 U.S.P.Q. 326 (C.C.P.A. 1956); In re Gruskin, 110 U.S.P.Q. 288 (C.C.P.A. 1956); and In re Pennington, 113 U.S.P.Q. 81 (C.C.P.A. 1957).

Not only is there no motivation provided by Niedermayer et al. to seek the solution of utilizing a duplex valve as disclosed by Ramacier, Jr., et al, but it is further respectfully submitted that Niedermayer, et al., and Ramacier, Jr., et al. represent non-analogues art.

The primary reference, Niedermayer et al., is taken from a widely divergent field from that of the secondary references, Ramacier, Jr., et al. As such, it is respectfully submitted that the hypothetical combination is improper and comprising reference of non-analogous art. In re Van Wanderham, Worthley, and Comolli, 154 U.S.P.Q. 20 (C.C.P.A. 1967).

It is clear that Niedermayer, et al. discloses an ink jet supply apparatus for use in printing systems, particularly those which require large volumes of ink over extended periods of time. By way of contrast, Ramacier, Jr., et al., discloses a quick connection coupling valve assembly (duplex valve). The Examiner has provided no indication that such duplex valves are known in or are common to the printing arts. Indeed, it appears from Niedermayer, et al. that such duplex valves may not be common in the printing art since no prior art attempt has apparently been made (or is at least

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not disclosed by Niedermayer, et al.) to mitigate the long standing problem of ink leakage via the use of a duplex valve.

It is not enough to pick out isolated features in earlier prior art patents, combine them in one particular way with the application of hindsight acquired only from the Applicant's own disclosure, and then say that it would have been obvious to select those particular features and to combine them in the particular way in which the Applicant has. Eversharp, Inc., v. Fisher Pen Co., 204 F.Supp. 649, 662-63, 132 U.S.P.Q. 423, 434 (N.D. Ill. 1961).

Accused infringer's attempt to establish obviousness by presuming that persons of ordinary skill would necessarily pick and choose among a multitude of prior art references to combine them exactly as did patentee is insufficient to carry infringer's burden of proof. Ethyl Molded Products Co. v. Betts Package Inc., 9 U.S.P.Q. 2d 1001 (E.D. Ky. 1988).

Indeed, Judge Marke stated "virtually all inventions are 'combinations,' and . . . every invention is formed of 'old elements' . . . Only God works from nothing. Man must work with old elements". [Emphasis in original.] In re Right, 848 F.2d 1216, 1220 [6 U.S.P.Q. 2d 1959, 1962] (Fed. Cir. 1988).

Moreover, it is respectfully submitted that Niedermayer, et al. teaches away from the use of such a duplex valve by repeatedly stating that its own valve member functions "so as to prevent the flow of ink from the container when the ink supply is not mounted on a supply base" (last sentence of abstract; column 2, lines 62-64) and by stating that "ink from the container 60 is permitted to flow upon mounting of the container 60 on the base 52 of the reservoir without any extra steps on the part of operator and without any leakage from the container 60" (column 5, lines 29-33).

In so teaching away from the claimed combination (by repeatedly reciting that Niedermayer's own valve mitigates leakage), Niedermayer, et al. clearly makes any combination of Ramacier, Jr., et al. therewith improper. Therefore, it is respectfully submitted that the combination of a duplex valve

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with a container configure to hold ink as substantially recited in new independent Claim 21 and the use of a duplex valve in an ink jet printer as recited in new independent Claim 24 and new independent Claim 27 is novel and non-obvious, and therefore new Claims 21-29 represent patentable subject matter.

It is worthwhile to note that applicant's solution has solved a long standing problem in the art. Those skilled in the art will appreciate that undesirable leakage of ink in an ink jet supply apparatus is a troublesome and frustrating problem. Undesirable leakage of ink not only results in a mess which must be cleaned up, but can also damage a printer and ruin clothing and other items. The printer may potentially be damaged when ink gums up the mechanical components and/or shorts out electronic components. It is clear that a solution to this problem has been desired for some time. The fact that this is a long standing problem for which an adequate solution has, heretofore, not been provided is, itself, evidence of non-obviousness.

Additionally, new dependent Claims 23, 26, and 29 all substantially recite that the reservoir "is formed so as to have a base which is substantially flat where ink enters the reservoir." The subject patent application discloses two different embodiments. The first embodiment, shown in Figure 2A, has a reservoir wherein the base 52 has a protrusion or member 62 extending upwardly therefrom. This member 62 is used, according to the specification, to actuate a valve contained within the neck of the replaceable ink container. However, the duplex valve of the present invention eliminates the valve in the neck of the ink container and thus obviates the need for such an upstanding member 62.

The elimination of upstanding member 62 makes fabrication of the reservoir simpler and less expensive. The elimination of the upstanding member 62 also avoids the undesirable potential for misalignment of the upstanding member 62 with the complimentary valve of the prior art replaceable ink container. That is, it is respectfully submitted that mating and operation of the duplex valve of

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the present invention is substantially easier and more reliable than mating and operation of the prior art valve within the neck of the replaceable ink container as an attempt is made to align the valve with the upstanding member 62.

It is respectfully submitted that none of the cited references, taken either alone or in combination with one another, either discloses or makes obvious a "reservoir formed so as to have a base which is substantially flat where ink enters the reservoir" (and which thus inherently lack an upstanding member 62) as recited in dependent Claims 23, 26, and 29. Therefore, it is respectfully submitted that dependent Claims 23, 26, and 29 are independently patentable with respect to their corresponding independent Claims 21, 24, and 27.

Furthermore, any suggestion that the references be so modified as to provide a novel combination of a duplex valve in an ink jet supply apparatus, as well as a reservoir "formed so as to have a base which is substantially flat" cannot be supported. As noted in In re Gordon et al., 773 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984), the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. See, also, Carl Schenck, A.G. v. Norton Corporation, 713 F.2d 782, 218 U.S.P.Q. 698 (Fed. Cir. 1983; In re Sernaker, 702 F.2d 989, 217, U.S.P.Q. 1 (Fed. Cir. 1983)).

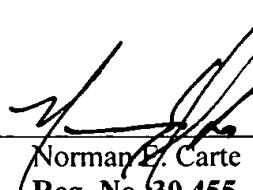
In view of the foregoing, it is respectfully submitted that new Claims 21-29 are allowable. Reconsideration and an early allowance is therefore respectfully requested.

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VERSION WITH MARKINGS TO SHOW CHANGES

IN THE SPECIFICATION

Paragraph beginning of page 2, line 8, has been amended as follows:

In Niedermeyer an impulse ink jet head is coupled to a an ink reservoir that is supplied from a container with an opening for releasing ink by a valve in the opening. The valve is biased closed by a spring when the container when not mounted on the reservoir.

Paragraph beginning of page 3, line 1, has been amended as follows:

Accordingly, it is an object of the invention desirable to provide an improved impulse ink jet head coupled to a ink reservoir supplied from a container having an opening for releasing ink from the container.

Paragraph beginning at page 3, line 5, has been amended as follows:

~~A related object is~~ It is further desirable to improve the mechanism that controls the flow of ink from the container into the reservoir. Another related object is to improve the prevention of ink flow from the container when not mounted on the reservoir.

Paragraph beginning at 3, line 10, has been amended as follows:

~~Still another object is~~ It is yet further desirable to avoid the need for having the container take the form of a bottle with a neck enclosing a spring and a portion of the valve mechanism, and to avoid a valve with an actuating surface exposed that is required to contact a stationary actuator within an ink reservoir.

Paragraph beginning at 3, line 15, has been amended as follows:

~~A further object of the invention is~~ It is yet further desirable to avoid misalignment between a stationary actuator of a reservoir and a concave actuating surface of a valve, as well as avoid interference with the ink supply and ink leakage during the removal of a partially filled ink container because the valve does not close immediately during container removal.

IN THE ABSTRACT

A new abstract has been provided as follows:

INKING SYSTEM AND METHOD

ABSTRACT

An ink jet printer comprises a container configured to hold ink, a first coupling component of a duplex coupler formed to the container, and a reservoir configured to receive ink from the container. A complementary second coupling component of the duplex coupler is formed to the reservoir. The first coupling component is configured to mate with the second coupling component, so as to mitigate leakage of ink.

IN THE CLAIMS

Claims 1 – 20 have been cancelled without prejudice.

21. (new) A replaceable ink container assembly for use in an ink jet printer, the ink container assembly comprising:

a container configured to hold ink;

a first coupling component of a duplex coupler formed to the container; and

wherein the first coupling component is configured to mate with a complimentary second coupling component of a reservoir of the ink jet printer, so as to mitigate leakage of ink.

22. (new) The replaceable ink container assembly as recited in claim 21, wherein the first coupling component is configured so as to be at least partially inserted into the second coupling component.

23. (new) The replaceable ink container assembly as recited in claim 21, wherein the first coupling is configured so as to facilitate a flow of ink therethrough when the reservoir is formed so as to have a base which is substantially flat where ink enters the reservoir.

24. (new) An ink jet printer comprising:

a container configured to hold ink;

a first coupling component of a duplex coupler formed to the container;

a reservoir configured to receive ink from the container;

a complimentary second coupling component of the duplex coupler formed to the reservoir;

and

wherein the first coupling component is configured to mate with the second coupling component, so as to mitigate leakage of ink.

25. (new) The ink jet printer as recited in claim 24, wherein the first coupling component is configured so as to be at least partially inserted into the second coupling component.

26. (new) The ink jet printer as recited in claim 24, , wherein the first coupling is configured so as to facilitate a flow of ink therethrough when the reservoir is formed so as to have a base which is substantially flat where ink enters the reservoir.

27. (new) A method for operating an ink jet printer, the method comprising:
providing a container configured to hold ink, the container having a first coupling component of a duplex coupler formed thereto;

providing a reservoir configured to receive ink from the container, the reservoir having a complimentary second coupling component of the duplex coupler formed thereto; and

facilitating a flow of ink from the container to the reservoir through the duplex connector.

28. (new) The method as recited in claim 27, wherein the first coupling component is configured so as to be at least partially inserted into the second coupling component.

29. (new) The method as recited in claim 27, , wherein the first coupling is configured so as to facilitate a flow of ink therethrough when the reservoir is formed so as to have a base which is substantially flat where ink enters the reservoir.